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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,053	05/29/2001	William A. Rozzi	10278US01	5745

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EXAMINER	
LUU, MATTHEW	
ART UNIT	**PAPER NUMBER**
2676	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/867,053	ROZZI, WILLIAM A.	
	Examiner	Art Unit	
	LUU MATTHEW	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *March 2, 2005 (Interview)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *March 2, 05* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21-27, 29, 31-34, 36, 38, 39, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deguchi et al (6,480,202) in view of Hidaka et al (6,373,531).

Claim 21.

Deguchi discloses (Figs. 6, 8 and 15) a method comprising:

sensing illuminant conditions with an illuminant condition sensor (ambient light input section 101). The illuminant condition sensor (101) being mounted on the display device (monitor 103) forms a part of the display device (Column 7, lines 52-58).

Deguchi further discloses (Fig. 15) the step of adjusting color data received from a source device (monitor 103-1 of the transmitter) for use by the display device (monitor 103-2 of the receiver) based on a source device profile (profile C) associated with the source device (monitor 103-1), a destination device profile (profile E of the receiver) associated with the display device (103-2), and the sensed illuminant conditions from the illuminant condition sensor

(101) (Figs. 6 and 8). See column 4, lines 55-58; and column 15, line 13 to column 16, line 5.

Deguchi teaches the illuminant condition sensor (ambient light input section 101) detecting information on the chromaticity and the brightness of ambient light (Column 7, lines 11-16). The chromaticity is the color data. The monitor control section (102) uses these sensed chromaticity (color data) and brightness condition to adjust the tone reproduction curve (TRC). Deguchi further discloses (Fig. 3) the relationship between the tone reproduction curves (TRC) and the color data R, G and B (column 2, line 42 to column 3, line 12). The tone reproduction is a term used to describe the contrast of a color image. This is the one of the most important color image processing adjustments. If the color image's contrast is correct, then other color correction problems do not seem as difficult to deal with.

The tone reproduction characteristics are identified by color areas such as highlights, shadows and midtones. For example, if rXYZ, gXYZ and bXYZ specify the R, G, and B primary colors that determine the gamut of the device, then rTRC, gTRC and bTRC are the R, G, and B tone reproduction curves that define the device or color space gamma in Input and Monitor profiles.

For these reasons, one of ordinary skill in the art would recognize that to adjust the TRCs is to adjust the color data of the device. Therefore, the sensed illuminant condition would adjust the tone reproduction curves (TRCs) and thus adjusting the color data.

The only difference between the disclosure of Deguchi and the claimed invention is that the claim requires the illuminant condition sensor being integrated with the display device.

However, Hidaka discloses (Figs. 2, 10 and 13) a color correction method that comprises an illuminant condition sensor (ambient light sensor 109). This illuminant condition sensor integrally mounted on the surface of the monitor (12) for sensing the ambient light and color data (Column 10, lines 57-58; and column 13, lines 17-18). The output of the ambient light sensor is used to correct the color data (Column 4, lines 26-28; and column 6, lines 23-26).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the integrated illuminant condition sensor of Hidaka for the illuminant condition sensor Deguchi to provide a more proper and accurate color correction method by taking the sensed ambient light into consideration.

Claim 22.

The only difference between the claimed invention and the disclosure of Deguchi is that the claims require the illuminant condition sensor **is a charge coupled device.**

However, it is well known in the art that a number of different ambient light sensors such as photo-diodes or charge coupled device can be used for detecting ambient light and colors. Therefore, it would have

been obvious to the person of ordinary skill in the art to use the best choice of sensing devices that fit for detecting light and colors in various illuminant conditions.

Claim 23.

Note the rejection as set forth above with respect to claim 21.

Deguchi further discloses (Fig. 6) wherein the illuminant condition sensor (101) senses the display emission characteristics of the display plus those of the colors of ambient light reflected by the surface of the tube of the monitor (Column 3, lines 58-64).

Furthermore, Hidaka also discloses (Fig. 2) the ambient light sensor (109) also detect the non-luminous color reflected from a recording medium, whereas the color of the display image (202) is the luminous color radiated from the light source (Column 4, lines 29-37).

Claim 24.

Regarding claim 24, Deguchi discloses (Fig. 6) sensing display reflection characteristics (ambient light reflected by CRT surface) and adjusting color data according the sensed display reflection characteristics. See column 6, lines 57-64.

Claim 25.

Note the rejection as set forth above with respect to claim 21.

Deguchi further discloses (Fig. 6) wherein the illuminant condition sensor (101) senses the display emission characteristics of the display plus those of the colors of ambient light reflected by the surface of the tube of the monitor (Column 3, lines 58-64).

Furthermore, Hidaka also discloses (Fig. 2) the ambient light sensor (109) also detect the non-luminous color reflected from a recording medium, whereas the color of the display image (202) is the luminous color radiated from the light source (Column 4, lines 29-37).

Claim 26.

Deguchi discloses (Fig. 8) the adjusting color data occurs in a color-matching module (image processing section 100). See column 4, lines 55-58.

Claim 27.

Hidaka discloses the output of the ambient light sensor is used to correct the color data (Column 4, lines 26-28; and column 6, lines 23-26).

Claim 29.

Note the rejection as set forth above with respect to claim 21.

Deguchi further discloses (Fig. 6) wherein the illuminant condition sensor (101) senses the display emission characteristics of the display plus those of the colors of ambient light reflected by the surface of the tube of the monitor (Column 3, lines 58-64).

Furthermore, Hidaka also discloses (Fig. 2) the ambient light sensor (109) also detect the non-luminous color reflected from a recording medium, whereas the color of the display image (202) is the luminous color radiated from the light source (Column 4, lines 29-37) plus those of the colors of ambient light reflected by the surface of the tube of the monitor (Column 3, lines 58-64).

Claim 31.

Claim 31 is the system claim of claim 21. Therefore, note the rejections as set forth above with respect to claim 21 since both Deguchi and Hidaka disclose a color adjusting system based on the sensed illuminant condition.

Claim 32. Note the rejection as set forth above with respect to claim 22.

Claim 33. Note the rejection as set forth above with respect to claim 23.

Claim 34. Note the rejection as set forth above with respect to claim 27.

Claim 36. Note the rejection as set forth above with respect to claim 29.

Claim 38. Deguchi discloses (Fig. 8)a color management control (monitor control section 102, image processing section 100, memory section 104), the color matching module (image processing section 100) residing in

the color management control (102, 100, 104).

Claim 39. Deguchi discloses (Fig. 1) a printing device (4) coupled to the color management control (Fig. 1) See column 1, lines 50-60.

Claim 41.

Note the rejection as set forth above with respect to claim 21 since claim 41 is much broader than claim 21.

Claim 42.

Deguchi further discloses (Fig. 6) wherein the illuminant condition sensor (101) senses the display emission characteristics of the display plus those of the colors of ambient light reflected by the surface of the tube of the monitor (Column 3, lines 58-64).

Furthermore, Hidaka also discloses (Fig. 2) the ambient light sensor (109) also detect the non-luminous color reflected from a recording medium, whereas the color of the display image (202) is the luminous color radiated from the light source (Column 4, lines 29-37).

Claim Rejections - 35 USC § 103

Claims 28, 30, 35, 37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deguchi in view of Hidaka as applied to claim 21 above, and further in view of Liang (5,579,031).

Claim 28.

The only difference between the disclosure of Deguchi and the claimed invention is that claim 28 requires an illuminant condition look-up table (LUT).

Liang discloses (Figs. 1 and 2) a color matching method that uses look-up tables (LUT) for adjusting color data. Since Deguchi further discloses (Fig. 17) the use of LUT in the color and brightness adjustment display system (Column 28, lines 3-7), it would have been obvious to the person of ordinary skill in the art to use the LUT of Liang for adjusting the color data of Deguchi since it is conventional in the art.

Claim 30.

Deguchi further discloses (Fig. 6) wherein the illuminant condition sensor (101) senses the display emission characteristics of the display (Column 3, lines 58-64).

Furthermore, Hidaka also discloses (Fig. 2) the ambient light sensor (109) also detect the non-luminous color reflected from a recording medium, whereas the color of the display image (202) is the luminous color radiated from the light source (Column 4, lines 29-37).

Claim 35. Note the rejection as set forth above with respect to claim 28.

Claim 37. Note the rejection as set forth above with respect to claim 30.

Claim 40.

Liang also discloses (figs. 1 and 2) a plurality of a display devices in a color adjustment system. It is obvious to the person of ordinary skill in the art to use the multiple displays color matching method of Liang into the display system of Deguchi to provide a display system that can adjust **display emission characteristics in addition to illuminant conditions surrounding the display device (ambient light) to a multiple displays system since multiple displays "soft proofing" is well known in the art.**

Response to Arguments

Applicant's arguments with respect to claims 21-42 have been considered but are moot in view of the new ground(s) of rejection.

Deguchi teaches the illuminant condition sensor (ambient light input section 101) detecting information on the chromaticity and the brightness of ambient light (Column 7, lines 11-16). The chromaticity is the color data. The monitor control section (102) uses these sensed chromaticity (color data) and brightness condition to adjust the tone reproduction curve (TRC). Deguchi further discloses (Fig. 3) the relationship between the tone reproduction curves (TRC) and the color data R, G and B (column 2, line 42 to column 3, line 12).

The tone reproduction is a term used to describe the contrast of a color image. This is the one of the most important color image processing adjustments. If the color image's contrast is correct, then other color correction problems do not seem as difficult to deal with.

The tone reproduction characteristics are identified by color areas such as highlights, shadows and midtones. For example, if rXYZ, gXYZ and bXYZ specify the R, G, and B primary colors that determine the gamut of the device, then rTRC, gTRC and bTRC are the R, G, and B tone reproduction curves that define the device or color space gamma in Input and Monitor profiles.

For these reasons, one of ordinary skill in the art would recognize that to adjust the TRCs is to adjust the color data of the device. Therefore, the sensed illuminant condition would adjust the tone reproduction curves (TRCs) and thus adjusting the color data.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Wilkins discloses (Fig. 5) a color temperature sensor (510) and the color temperature LUT (512).

-Hidaka et al (6,240,204) disclose (Fig. 1) a detachable ambient light sensor (111).

-Hirose et al (5,032,828) disclose (Figs. 1-4) a photo-diode sending device (16) for sensing ambient light, which is used to correct the tone of the color data (Fig. 4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUU MATTHEW whose telephone number is (703) 305-4850. The examiner can normally be reached on Flexible Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BELLA MATTHEW can be reached on (703) 308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Luu

MATTHEW LUU
PRIMARY EXAMINER